THE NATURE CONSERVANCY NEWS

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LAND CONSERVATION THROUGH PRIVATE ACTION

The Nature Conservancy is the only national conservation organization, receiving its support from the public, whose resources are devoted to the preservation of ecologically and environmentally significant land.

Some 413,361 acres of forests, swamps, marshes, prairies, mountains, beaches, and islands in 1,063 projects throughout the United States, have been saved from destruction by the Conservancy since the acquisition of its first preserve in 1954.

The Nature Conservancy works in three ways to protect threatened natural areas: by purchase of land with funds raised through public subscription, by acceptance of donations of land, and by advance acquisition of land for local, state, and federal governments.

A member-governed non-profit organization, The Nature Conservancy was incorporated in 1951 in the District of Columbia for scientific and educational purposes.

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NEW PROJECTS

California

BUENA VISTA LAGOON (San Diego County). A series of fresh-water lagoons formed by sand bars at the mouth of an estuary is a winter refuge for migrating water birds. The 56-acre tract was acquired by the State with the Conservancy's assistance.

IDYLLWILD-CUBARKIN (Riverside County). Through a land exchange agreement with the U.S. Forest Service, the Conservancy acquired 135 acres adjacent to Idyllwild Park. The tract, containing high desert woodlands with several large rock outcroppings, is to be transferred to Riverside County for addition to Idyllwild Park.

Connecticut

KENT FALLS BROOK—Rogers Easement—(Litchfield County). A conservation easement on 12 acres surrounding scenic Kent Falls Brook was donated by Mr. and Mrs. Newell Rogers. The area contains reverted farm land, rock ledges, and a small bog. The area will be managed by the donors.

Florida

BIG CYPRESS SWAMP—Nichols Addition—(Monroe County). Purchase of this 10-acre addition is part of the Conservancy's program of advance acquisitions undertaken at the request of the Department of Interior. The Swamp is of critical importance as a freshwater supply to the Everglades National Park. Wildlife includes alligators, panthers, bald eagles, deer and osprey.

SANIBEL ISLAND—Newman Tract—(Lee County). 24 acres, purchased in cooperation with the Sanibel-Captiva Conservation Foundation, consist of swales and temporary ponds on a substrate of sand and marine shells. 227 species of birds have been recorded in the area.

Georgia

FORT MORRIS, Georgia Heritage Trust (Liberty County). A revolutionary period earthwork fortification, Fort Morris is situated along the Medway River adjacent to the "dead town" of Sunbury. The Fort is one of Georgia's most important historical sites. With the Conservancy's assistance, the State of Georgia acquired approximately 2½ acres within the area.

LEWIS ISLAND, Georgia Heritage Trust (McIntosh County). The Altamaha and Lewis Rivers form the borders of this unspoiled 6,090-acre river swamp. The island contains virgin stands of gum and oak, and the largest stand of virgin cypress known to exist in Georgia. Animals are abundant, including some species rare in Georgia: the limpkin, the swallow-tailed kite, and the Mississippi kite. Through an option secured by the Conservancy, the State purchased the area for use as a wildlife refuge.

PHILLIPS TRACT, Georgia Heritage Trust (Tattnall County). 750 acres consist predominantly of an evergreen broadleaf forest known as the "Big Hammock". This hammock forest is one of the last remaining undisturbed hammocks along the border of the Altamaha River Swamp. It contains the largest known breeding population of the Georgia plume and the largest known population of myrtle oak in the State. The parcel was designated for acquisition by the Georgia Heritage Trust and was purchased by the State through an option secured by the Conservancy.

PICKETT'S MILL TRACT, Georgia Heritage Trust (Paulding County). At the request of the State of Georgia and the Georgia Heritage Trust, the Conservancy assisted in the purchase of 468 acres of heavily wooded hills and ravines. The property, site of the Civil War Pickett's Mill Battle, will be managed by the Georgia Division of Parks.

WOODALL TRACT, Georgia Heritage Trust (Fulton County). In cooperation with the State of Georgia, the Conservancy purchased 142 acres fronting the scenic and unspoiled Chattahoochee River. The tract, just north of the Atlanta city limits, had been threatened by rezoning which would have led to extensive development. The area's climax hardwood forest shelters numerous kinds of small animals including rabbit, squirrel, quail, muskrat, and beaver.

Illinois

CEDAR GLEN EAGLE ROOST—Additions—(Hancock County).Two tracts, 40 and 143 acres, provide shelter and sunning and fishing perches for wintering bald eagles. The areas will be transferred or leased to Western Illinois University for management as a nature preserve and eagle habitat. Efforts to raise funds for the land's purchase are underway by the Illinois Chapter.

GENSBURG-MARKHAM PRAIRIE—Additions—(Cook County). Four tracts totaling approximately 1½ acres were purchased for addition to Gensburg-Markham Prairie, located just south of Chicago. The entire prairie, now 93 acres, is scheduled for ultimate transfer to and management by Northeastern Illinois University. Fund raising is underway by the Illinois Chapter.

PRAIRIE GROUSE PRESERVE, Walters Tract (Jasper County). The Prairie Grouse Committee of the Illinois Chapter purchased a 40-acre addition to the system of sanctuaries in Jasper and Marion Counties for the threatened prairie grouse. The sanctuaries are managed under the direction of the Illinois Natural History Survey.

Iowa

WILLIAMS PRAIRIE (Johnson County). The 20-acre native prairie supports bunch flower, purple and yellow coneflower, prairie fringed orchid, gayfeather, and the unusual bottle gentian. The short-billed marsh wren and the bobolink, both becoming rare in Iowa due to the disappearance of moist prairies, are found at Williams Prairie. The Iowa Chapter has management responsibility.

Michigan

DUCK LAKE (Muskegon County). Two adjoining tracts totaling 585 acres include extensive frontage on Duck Lake and Lake Michigan. The area is heavily wooded with oak, maple, beech and pine. The property will be transferred to the State of Michigan for establishment of a park.

Nevada

BIG SPRINGS DESERT PUPFISH SANCTUARY (Nye County). 80 acres of flat, arid land, just east of Death Valley National Monument, contain a large spring supporting one of six endangered species of desert pupfish *(Cyprinodon nevadensis mionectes)*. See story beginning on page 8.

New York

CENTRAL PARK ADDITION (Schenectady County). The Eastern New York Chapter assisted the City of Schenectady in acquiring 17.5 acres for addition to Central Park. The tract consists of mixed forest on rolling topography, with one low-lying wet area.

CORDILIA HEPBURN CUSHMAN SANCTUARY (Nassau County). The 15-acre preserve is a donation of Mr. R. H. Cushman and is located in the Town of Oyster Bay Cove. The property is near the Conservancy's Fox Hollow Preserve, and is heavily wooded with a mature forest of oak, maple and beech. Its understory is primarily mountain laurel with a heavy growth of several varieties of fern. Management will be conducted by the Long Island Chapter.

HELEN JAHN MEMORIAL NATURAL AREA (Oswego County). 35 acres of open fields and woods, located on a high promontory along the shore of Lake Ontario, were purchased by the Western New York Chapter. The area is a well-known site for the observation of migrating birds, particularly hawks during spring migration. The Onandaga Audubon Society is managing the area.

MEYER SANCTUARY (Westchester County). 231 acres near Mt. Kisco contain a small stream, open fields, and a woodland with hundred-year-old white oak, beech, yellow poplar and hemlock. The preserve is a gift of the Eugene and Agnes Meyer Foundation.

MIANUS RIVER GORGE—Additions—(Westchester County). The purchase of two additions totaling 15½ acres is part of the Conservancy's continuing effort to protect Mianus Gorge. The program to save the Gorge has continued since 1954 and is the oldest active Conservancy project. The preserve now stands at 324½ acres.

MILDRED DENTON BIRD AND WILDLIFE REFUGE (Washington County). Lying on the eastern shore of the Hudson River, the land is almost entirely forested, including swamp and upland mixed woods. The preserve contains one pond and part of another, both of which are filled with vegetation and are important as feeding ground for waterfowl. Mrs. Julius Denton donated the 360-acre property to the Conservancy. In addition, 5 acres contiguous to the Denton preserve were donated by Mr. and Mrs. George Palmer. This tract completes protection of one of the two ponds on the Denton preserve. The Eastern New York Chapter has management responsibility.

MILDRED E. GRIERSON MEMORIAL WILDLIFE SANCTUARY (Westchester County). The 18-acre property includes 5 acres of marsh and pond with a large population of turtles, frogs, bass, small minnows and other marsh inhabitants. The remainder of the tract is heavily wooded with oak, beech, maple and hickory. Birds frequenting the area include wood ducks, owls and song birds. The property, which lies adjacent to the Conservancy's Marion Yarrow Preserve, is a gift of Mr. Stanley O. Grierson.

THE JAMES PRESERVE (Nassau County). The 19 acres, donated by Mrs. Darwin R. James III, consist of two non-contiguous tracts located about 12 miles east of New York City. One parcel includes a three-acre pond used by Canada geese, ducks and shorebirds; the remaining tract includes a marsh with red maple and surrounding woods of hickory, oak, ironwood and pine. Management of the property will be the responsibility of the Long Island Chapter.

WEST HILL (Ontario County). The 313-acre preserve is situated on sloping land within the central portion of the Finger Lakes region, where prominent hills and deep, trough-like valleys were formed by glacial activity. Typical flora includes thornapple, pine, and various hardwoods. Management will be under the direction of Finger Lakes Community College. This preserve, donated by Mr. Anton V. Long, represents the 1000th project undertaken by the Conservancy.

North Carolina

ENO RIVER—Dubs Parcel—(Orange County). 17 acres of undisturbed forest include a spectacular bluff overlooking the Eno. The tract, a donation of Mr. Charles W. Dubs, will be transferred to the State for inclusion in the proposed Eno River State Park. A story about the Conservancy's program to assist the state in obtaining lands along a 20-mile stretch of the Eno begins on page 10.

GREAT DISMAL SWAMP—Headley Addition —(Camden County). In cooperation with the State of North Carolina, the Conservancy purchased 5,715 acres of forested swamp within the Great Dismal. The area will be transferred to the State for administration by the Department of Natural and Economic Resources.

Ohio

CHAGRIN RIVER FOREST PRESERVE—Bishop Addition II—(Cuyahoga County). 80 acres of beech, maple, and hemlock ravines were donated by Mr. and Mrs. Amasa S. Bishop and Dr. and Mrs. Jonathan S. Bishop. The preserve, which fronts the Chagrin River, now totals 148 acres. The area has been transferred to the Village of Hunting Valley for management.

LITTLE MIAMI OVERLOOK (Warren County). The 80-acre tract fronts on the Little Miami River and occupies a conspicuous place along Interstate #71, below a state-owned scenic overlook in one of Ohio's relatively unspoiled river valleys. The area is almost entirely reverting farmland, and is to be transferred to the State for management under its scenic rivers program.

TEFFT MEMORIAL NATURE SANCTUARY —Benedict Tract—(Washington County). 88 acres are heavily wooded with two distinct woodland

types: oak woodland on dry ridge tops and southern exposures, with mixed mesophytic forest in protected coves. The tract provides valuable watershed buffer to the sandstone gorge on the Tefft property. This addition brings the preserve's total acreage to 155½.

Pennsylvania

SALT SPRINGS (Susquehanna County). At the request of the Commonwealth of Pennsylvania, the Conservancy has entered into a cooperative effort to purchase this 408-acre area in northeastern Pennsylvania. The property contains an unusual natural phenomenon: a salt spring in a non-alkaline area. The tract also contains four waterfalls at Fall Brook, and a grove of ancient hemlocks reportedly ranging in age from 300 to 700 years. The Commonwealth of Pennsylvania will manage the property as a state park.

Virginia

PARRAMORE ISLAND, Virginia Coast Reserve (Accomack County). A 7,000-acre island on the eastern shore of Virginia, Parramore Island has long been recognized as the "crown jewel" of the Virginia Barrier Islands. The island contains extensive cord grass marshes and 9 brackish and freshwater ponds. A variety of vegetation is found in the area including a stand of virgin pine, cedar, myrtle bushes and marsh. An interesting geological formation on the south end of the island is the donut-shaped sand dune. Flora and fauna range from fresh water to oceanic, and the island is a major nesting site for mixed heronry, skimmers, terns, gulls, willets, osprey, and oyster catchers. Funds for the purchase were provided by the Mary Flagler Cary Charitable Trust.

ROGUE ISLAND, Virginia Coast Reserve (Northampton County). Directly west of Hog Island, Rogue Island consists primarily of high and low spartina salt marsh and a chain of sand dunes on the eastern face, supported by dune grass and myrtle. The 395-acre island provides habitat for sea and shorebirds including laughing gulls, oystercatchers, Forester's terns, black skimmers and Wilson's plovers, and a variety of small mammals, crustaceans and insects. The Conservancy purchased the island with funds provided by the Mary Flagler Cary Charitable Trust.

Washington

LAKE LOUISE ECOLOGICAL PRESERVE (Whatcom County). On behalf of the State of Washington, 4 acres were acquired for addition to an 80-acre state-owned ecological area. The addition provides protection and access to a pond. The tract is administered by Western Washington State College, as is the original 80-acre parcel.

WALDRON ISLAND—Addition—(San Juan County). With the purchase of an additional 84 acres, this preserve of white sand beaches, marshes, lakes, and evergreen and hardwood forests now totals 216 acres. Located in the San Juan Islands of Puget Sound, the island attracts seals, otters, bald eagles, and numerous shore and sea birds. Fund raising by the Western Washington Chapter is underway.

Wisconsin

JACKSON HARBOR RIDGES (Door County). Located on Washington Island, the tract includes a beach with boreal plants exhibiting dune succession, and wet and upland forest areas on the ridges. Most of the 39-acre property will be used as an outdoor study area, with the remainder being used for recreation. The Wisconsin Chapter assisted the Town of Washington Island in purchasing the preserve.

TOFT POINT NATURAL AREA—Herbst Addition—(Door County). 40 acres contain tamarack and white cedar in a wet, swampy area. The tract, which expands Toft Point Natural Area to 310 acres, will be conveyed to the University of Wisconsin at Green Bay. The Wisconsin Chapter is raising funds for the purchase.

SAVING THE PUPFISH

by Mary Cone

At dawn the Pahrump Valley in the Death Valley basin in Nevada is streaked with mauve and gold. The serene desert, stretching low to the horizon, appears timeless—eternity transfixed. This timelessness is illusory, however, for with the passage of each moment, the desert is imperceptably changing. If a time lapse mechanism could be employed to condense geologic history, we would see an immense lake system in the late Pleistocene Ice Age reaching from northern Nevada south into Mexico and filling the present desert valleys of California with deep freshwater lakes. As the Ice Age ended, the climate changed: warming temperatures were accompanied by a reduction in rainfall. The lakes gradually receded and the remaining water grew brackish. Today, a few small springs, shallow streams, and "bathtub" potholes, scattered throughout the Death Valley region, are all that remain.

As the vast lakes diminished, killifish that had moved freely through the glacial waters gradually evolved to meet the rigors of the new environment. Left to survive in isolated oases, each population of these tiny fish adapted to the particular demands of its surroundings. Consequently, descendents of the killifish, desert pupfish, now comprise four distinct species and several subspecies—six of which are threatened by extinction.

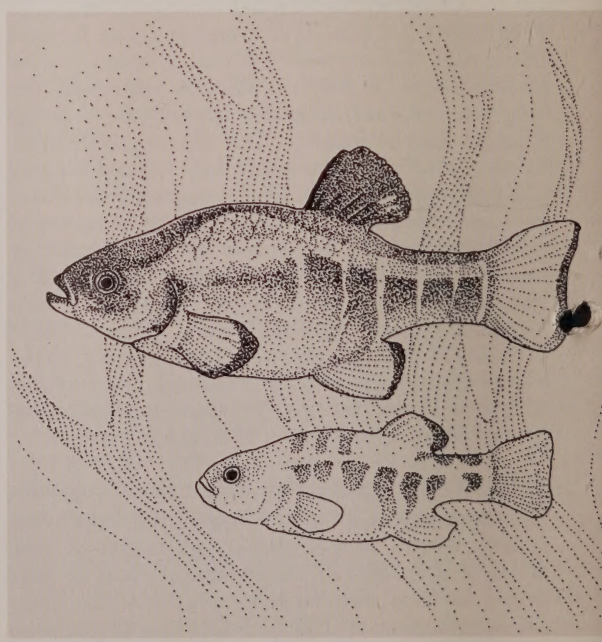
Supposedly named for their energetic, puppy-like behavior, desert pupfish (genus *Cyprinodon*) are creatures of remarkable beauty and vitality. The survival secrets locked in the bodies and behavior of these tiny fish are matters of great curiosity to scientists. As examples of divergent evolution, pupfish rank with the finches and tortoises of the Galapagos Islands.

Cyprinodonts are able to tolerate a wide range of natural conditions: they can live in fresh water or in water with a salinity six times that of sea water, and are able to accommodate habitat temperatures from a near-freezing 38 degrees F. to 108 degrees F. Some pupfish hibernate during freezing weather, burying themselves in mud. They are omnivorous feeders, and in addition to devouring algae, plankton, insects, crustaceans, and other fish, they sometimes feed on the dead bodies of their own species. Their extremely active and, in some cases, year-round breeding sustains them against the harsh conditions of their environment. After the winter and early spring rains, the pupfish population increases explosively; but as the heat of summer evaporates the excess water supply, millions of fish perish, leaving a mere fraction to repeat the cycle the following year.

Yet, despite the remarkable ability of pupfish to maintain their existence, man's activities threaten the future of these species. Increased agricultural demands continue to endanger water levels necessary to the fish. Predatory and competitive fishes such as largemouth bass, mosquitofish, black mollies, goldfish, and even bullfrogs have been introduced into pupfish habitats. Pesticides, though not intended to reach the pools and streams, have occasionally entered some of the more vulnerable areas. And an ironic result of increasing publicity about the plight of the pupfish is the threat of its depletion through overzealous collecting of specimens.

In recent years, a growing number of legislators, Department of Interior officials, university researchers and private citizens have labored to save the pupfish. Legislation to create sanctuaries

Nevada pupfish: males (foreground) are iridescent blue and purple with black bars and dark fin edges. Females are mottled brown and are smaller and slimmer than males. Drawing by DeVere Burt.



Big Spring, home of 2,000 Nevada pupfish

has been proposed, legal battles fought, transplants attempted and articles written—all with mixed success. Positive results include a series of conferences held at Death Valley Monument headquarters for the purpose of reviewing the status of pupfish and recommending courses of action for their protection. Out of these conferences came the Desert Fishes Council, "dedicated to the preservation of America's desert-dwelling fishes." And, in 1970, an intradepartmental task force within the Department of Interior began studying ways to protect the pupfish.

The Nature Conservancy was represented at the Death Valley conferences in 1969, and in that year the Conservancy's Western Regional Office began negotiations to acquire Big Spring, a large limestone "sink" in the flat, arid Pahrump Valley east of the Death Valley Monument. This summer, after at last resolving a plethora of complex legal problems, the Conservancy purchased Big Spring and 80 acres surrounding it for establishment of a desert pupfish sanctuary.

Big Spring is home of the Nevada pupfish, whose one and a half inch length measures less than the space it takes to print its scientific name, *Cyprinodon nevadensis mionectes*. Big Spring's Nevada pupfish population of approximately 2,000 is one of just ten remaining populations of this subspecies. Due to its limited distribution, the Nevada pupfish was recently added to the Department of Interior's list of threatened wildlife.

By comparative pupfish living standards, Big Spring provides de luxe accommodation. It is a natural thermal fresh water spring, 32 feet in diameter, discharging at a rate of 1,500 gallons per minute. Its waters are clear to the bottom, some 30 feet below the surface. The temperature is a fairly constant 81 degrees F. and the outlet stream runs for two miles.

Creation of the Big Spring Desert Pupfish Sanctuary will help ensure protection for the Nevada pupfish and its availability for scientific study. However, acquiring the land is only the first step toward that goal. The sanctuary's stewardship committee must deal with several immediate concerns: fencing is required to exclude grazing cattle; a road skirts precariously close to the spring and, though little used, must be relocated; methods of dealing with the snails and exotic fishes inhabiting the spring must be investigated. And the Conservancy's Western Regional Office must raise the funds to defray these management costs and to repay the $11,000 project loan.

The importance of the Big Spring preserve cannot be exaggerated. As habitat for an endangered species, Big Spring is a significant acquisition for the Conservancy. But of inestimable worth are the hope and inspiration transmitted to the general effort to save other pupfish species and other threatened wildlife.

THE ENO RIVER OF NORTH CAROLINA

by Margaret Nygard

In 1733 when William Byrd journeyed through the borderlands of Virginia and North Carolina, from the Dismal Swamp to the rolling country of the Piedmont, he was met one day by an old Indian who wanted to lead him to a silver mine on the Eno River. Byrd made a joke of it and gave the Indian a bottle of rum "to comfort his heart, with which he made himself very happy and all the family very miserable by the horrible noise he made all night."

This sad old man was probably Eno Will, the once-noble chieftain of the Eno Indians, who were once all-powerful in the Piedmont. Eno Will's silver mine has never been found, but there is good evidence that the Eno River itself, as a state park, will prove to be a gold mine for the people of North Carolina.

The Eno River lies in the Piedmont region at the head of the main stem of the Neuse, North Carolina's second largest river. The Eno rises in the tobacco fields of Orange County, having two sources and two forks. Both branches of the Eno, even before the river reaches Hillsborough, have historic sites along the way, including mill sites from colonial and later times and a historic marker at Efland where a revolutionary skirmish took place near Hart's Mill. Hillsborough is located at what was once the juncture of the Great Indian Trading Path, the high road through the Piedmont, and "that never-failing stream the Eno," which was the power source for 32 eighteenth and nineteenth century mills.

Beyond Hillsborough the Eno gathers strength and breadth, moving in its meandering way through unspoiled wilderness, past curious rock formations, past the Ship's Prow, Big Rock, Buzzard's Rock, past bluffs covered with mountain laurel, rhododendron, galax and partridge berry, through swimming holes with strange names and histories —the Devil's Sink Hole, the Bobbitt Hole, Green's Hole, the Sennett Hole.

The flavor of the country through which the Eno moves is of the mountains, and many of the flowers, ferns and other plants that grow along the way belong to the mountains. But at the fast-growing city of Durham, there is a change. Here, the Eno enters a diabase sill in the Triassic basin, and with this geologic change there is a dramatic change in scenery and botany. This section of the river is known for its extraordinary flora and its variety of very rare flowers, ferns and shrubs.

At the Flat River, by a quirk of political geography, the Eno becomes the Neuse River; from this point the Neuse moves on, south and east of Raleigh, past a cluster of flourishing river cities, down to the sound and the sea.

The Eno's headwaters in the Research Triangle region of Durham, Chapel Hill and Raleigh are at the heart of one of the fastest growing metropolitan areas in the United States. The planners of the Research Triangle predict that the area's population will more than double in the next fifty years. They anticipate that the separate towns of Chapel Hill, Hillsborough, Durham and Raleigh will grow together to form a megalopolis throughout the Piedmont. There are already signs in the proliferation of subdivisions, shopping centers, expressways, overlapping townships and extra-

territorial zones that these predictions are inexorably coming to pass.

There is, however, a very special character about this Research Triangle area. Chapel Hill, Durham and Raleigh are all university towns, containing a total of five major universities and several colleges. The Research Triangle itself, situated on a 4,300-acre campus, was established in 1956 as a center of industrial, governmental and scientific research. Historically this area has been a seat of North Carolina government. Hillsborough, briefly the state's capital during the eighteenth century, and Raleigh, its present capital, fall within the Triangle's bounds. The people of the Triangle have a sense of the past and a good perspective on open space and the human need for natural areas. They are grappling with their growth, not submitting flaccidly to it.

This thinking has had its influence. The State is reassessing its environmental habits, its patterns of land use and its needs for natural areas and state parks. Park needs are now seen to be overwhelming. Many years of budgetary neglect have reduced North Carolina, in spite of its magnificent range of country, to the lowest rank in the nation in terms of state parks. But this year, which has been an unprecedented year in North Carolina for environmental legislation, $11.5 million were appropriated for parkland acquisition. Under a new administration, James Harrington, Secretary of Natural and Economic Resources, has called for a new direction for state parks. He promises that "we will put the greater part of our planning effort and financial resources on the development of parks near where the people are. We will strive to meet the one acre to 300 citizens criterion by providing appropriate acreage within one hour's drive of the centers of population along the Piedmont crescent."

And so a new land use has been recognized for the Eno. As a state park it can help to keep a part of the Piedmont crescent green and serve its crowded people with the natural delights and variety of an unspoiled river.

This vision of an Eno River State Park has been the organizing dream of a grass-roots citizens' group called the Association for the Preservation of the Eno River Valley. For the past eight years this group has run an energetic campaign to make its dream a reality, working on all levels from garden clubs to government. While it pushed its vision, the Association has had to combat a monstrous succession of urban pressures: a major municipal reservoir, a belt-thoroughfare, a triad of mammoth subdivisions, a city landfill, two sewer systems and a series of fish-kills. It has had to contend, besides, with a federal reluctance to

A summer bather plunges into the Eno's cool waters

interfere with local management and a City Council favoring development of the river.

A fortunate combination in the Association of good sense, hard work, persistence and joy has been contagious and has pulled together many different sorts of people in a constructive effort to create a state park on the Eno. There have been walks, talks, slide shows, canoeing and rafting. This year alone more than 2,000 have come to the river for winter hikes and restricted wildflower hikes. Hundreds of children have enjoyed the Eno as an outdoor classroom. Thousands have bought the annual Eno River calendar with its pictures and anecdotes about the river. These activities have brought considerable attention to the Eno and the Association's desire to preserve it; there is a demand now for the Eno River State Park.

Good things have begun to happen for the Eno, and The Nature Conservancy has had a key role in this turn of events.

In 1969 the regional planners took another look at the reservoirs proposed for the region and rearranged their priorities. The Eno, regarded as "a magnificent scenic resource, a very lovely gorge," was moved to the bottom of the priority list, to be used only after all else was exhausted.

Under public pressure the City of Durham joined the effort to protect the Eno for more than reservoir purposes. With some uncertainty as to its goals and possibly for the wrong reasons, the City began to buy land for park purposes on the river. Durham now owns over a thousand acres and controls some four non-contiguous miles of river.

In 1970 the State became involved. That year the Eno River Association made a presentation to the State Parks Division for a 20-mile-long park based on the federal guidelines for wild and scenic rivers. The park they proposed would provide a genuine river experience and would run along both sides of the river with as much depth

Plants in bloom along the Eno: top, moccasin flower; above, mountain laurel.

as possible on both sides. It would join Hillsborough to Durham and link both cities with Raleigh by connecting with the recreational lands projected for the Falls reservoir on the Neuse. There would be a companion complex of river park and reservoir park which would create a green crescent through the megalopolis to come.

The State Parks Committee was enthusiastic about the proposal and authorized a feasibility study as well as a preliminary 300-acre purchase through The Nature Conservancy. Then the State lay landlocked by shortage of funds and deadlocked by political pressures from the City of Durham which wanted a free hand on the river.

Such an impasse might have fragmented the river and cut its unspoiled 20 miles into urban scraps—a piece of state park, a city reservoir, a city municipal park, subdivision greenways and sewer outfalls, all strung with sewer crossings and a belt-thoroughfare.

The Nature Conservancy has averted this danger and set things rolling again for the river park. In May 1971 the Conservancy was given a mandate from the State in a strongly worded resolution approving and endorsing the concept of a state park on twenty miles of the Eno River, "in order to protect it as a wild natural river." An Eno River Project Committee of The Nature Conservancy was formed to get on with the job of acquiring land by gift or purchase within this

Below, winter hikers pause during a walk along the Eno

Canoeists navigate through whitewater on the Eno

twenty miles. Such land was to be held in the name of the Conservancy and in due course tendered to the State for the Eno River Park.

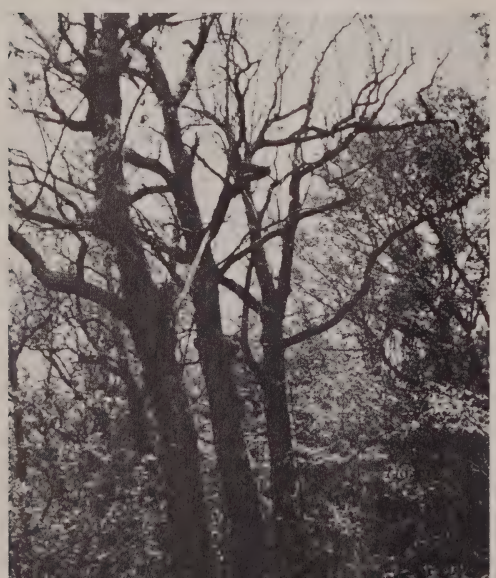
Gifts of land on the river came in immediately and scenic easements were made. A tract was purchased at an auction, something quite impossible for the State to do with its bureaucratic tangle of tape. Another tract was negotiated in the complicated settlement of a family estate. Lands were optioned and bought.

Today, a year and a half later, The Nature Conservancy has some 200 acres on the Eno in gifts, 453 acres optioned or purchased and approximately two contiguous miles of the Eno under control. The muscle and money of the Conservancy and its capacity to move quickly have been invaluable for the Eno project, and both the State and the City have profited.

Now an agreement is being drafted between the State, the City of Durham and Orange County for coordinated and cooperative action on the Eno so that the twenty-mile-long river park will have a common controlling set of plans and a routine for acquisition and maintenance that will protect its natural state. The Conservancy, as a fourth concerned party, will range the river in Durham and Orange Counties and help the creation of the park where it can. The Eno River Association will continue in its traditional role to educate and stand on guard.

Out of this combination of forces, a river park of grand dimensions is beginning to emerge, kin to Rock Creek, Central Park, Fairmount Park, and the river park in San Antonio, yet unlike anything else in the nation. A step away from the back doors of the people of this part of the Piedmont, there will be a natural greenway with a wild and scenic and historic river running through it. This was Governor Jim Holshouser's view at his formal inception of the Eno River State Park on June 15, 1973. Holshouser spoke then of the Eno River's recreational potential for the people of an urban area and "the green buffer" it would create against urban sprawl.

FOUR PRESERVES IN ADAMS COUNTY, OHIO



by Lucile Durrell

An escarpment much like a great step in the land runs north-south through Adams County, Ohio. Midway in the rock column are dolomite cliffs and promontories that overlook the wide valley of Ohio Brush Creek, flowing south to the Ohio River. Above the dolomite, outcroppings of shale underlie the dissected plateau. The escarpment divides the fertile rolling fields of the western part of the County from the rough and wooded hill country of the Appalachian Plateau to the east. In the narrow transition zone between these two topographies, the Ohio Chapter of The Nature Conservancy has been gathering acres for a major preserve system.

The remarkable botanic and scenic diversity of the area stems from the sharp relief of over 700 feet, a sequence of varied sedimentary rocks, and its location just south of the glacial border. There is an unusual variety of floristic elements: southern plants near or at their northern limits; northern relicts of Arbor Vitae persisting since the glacial period; western species in tall grass prairie openings which are remnant from a drier interglacial period; and plants with southeast Appalachian affinities.

The Adams County preserve system consists of four distinctive natural areas, all of which have been deeded to and are managed by the Cincinnati Museum of Natural History.

The dedicated research of E. Lucy Braun, the late eminent botanist, first stimulated the Ohio Chapter's interest in Adams County. Lynx Prairie, the smallest of the four Adams County preserves, was purchased in 1959 at Dr. Braun's recommendation, and the area is subtitled the "E. Lucy Braun Preserve" in her honor. The preserve consists of a number of tall grass prairie openings within the deciduous woodland. The forest areas are not virgin, but some of the prairie patches may have survived since an earlier interglacial period, and only a few such prairies remain in the unglaciated part of Ohio. Since the initial 42-acre acquisition in 1959, eleven acres have been added to Lynx Prairie, and an adjacent 84 acres are being considered for purchase as a buffer zone.

In 1960, the Chapter purchased Buzzardroost Rock (Christian and Emma Goetz Preserve), located over a mile west of Lynx Prairie. The preserve's outstanding feature is a great wedge-shaped dolomite promontory named after the turkey vultures that once used the ridge as a resting place. From the top of this massive outcropping, there is a magnificent view of the surrounding wooded hills and rolling farmlands. Through a series of phased acquisitions, the Ohio Chapter has increased the preserve's size from 62 to 459 acres.

Directly south of Buzzardroost Rock is Red Rock (Earl A. Farnau Preserve), acquired in 1970 as a memorial to Professor Farnau of the University of Cincinnati. Funds for the purchase were donated to the Chapter by the Professor's friends and former students. Red Rock, which can be seen from the top of Buzzardroost, is a high, coral-colored dolomite cliff surrounded by mature woodlands. Skirting the rim of this cliff is a small remnant prairie. Two tracts have been added to the Farnau preserve since 1970, bringing its total acreage to 93 and joining it to the Buzzardroost Rock preserve.

The Wilderness (Charles A. Eulett Preserve) honors an Adams County naturalist and teacher who has assisted the Chapter with the many purchases necessary to build this patchwork of land holdings. The 616-acre preserve contains mature forests, dolomite cliffs, prairie openings, and scenic vistas over Ohio Brush Creek. It is one

Buzzardroost Rock towers above surrounding woodlands

Dr. E. Lucy Braun and her sister, Dr. Annette Braun, at Lynx Prairie

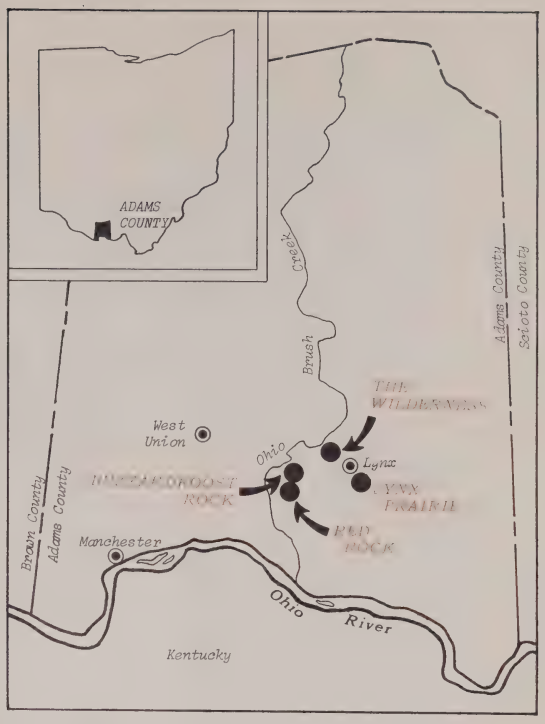
The base of an ancient arbor vitae, The Wilderness

of two stations in Ohio of *Pachystima canbyi,* a low evergreen shrub. Acquisition of The Wilderness has been a gradual, intricate process: since 1968, nine separate tracts, ranging in size from 1.7 to 250 acres, have been identified and acquired by the Chapter.

The National Park Service has designated Lynx Prairie and Buzzardroost Rock as National Natural Landmarks, and The Wilderness is currently under consideration for Landmark status.

The Cincinnati Museum of Natural History, as owner and steward of the four preserves, has established an excellent management program. From time to time, trees and shrubs are selectively removed to prevent their encroachment on prairie openings. Fences have been erected on some of the preserves to discourage intrusion by hunters and vandals. Visitors are welcome to explore the sanctuaries along a color-coded trail system built and maintained by one museum staff member and numerous volunteers. After additional land acquisition, a trail will connect Red Rock, Buzzardroost Rock, and The Wilderness along 4.5 miles of the Appalachian escarpment. The museum has published two trail guides and a third is in preparation. No roads, visitor facilities, or picnic tables mar the natural beauty of the areas.

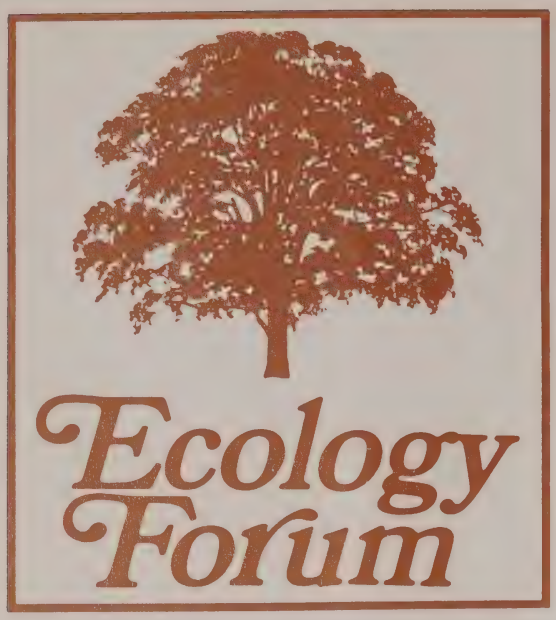
A narrow crevice cuts deep into Buzzardroost Rock



Ohio Brush Creek flows near the base of Buzzardroost Rock

The Adams County preserve system, acquired over a period of fourteen years through volunteer efforts, now totals 1,221 acres; but the master plan is still not complete. Chapter members have pinpointed other sites in Adams County that are worthy of preservation: a waterfall, a wooded valley, a great rock slip and associated cave, and a superb deciduous woodland. The Chapter's efforts to acquire these areas are slowed by shortness of funds, complex negotiations, and the increasing number of projects elsewhere in Ohio that demand the time and attention of the Chapter and its fulltime executive director, Marshal Moser. It is likely that preservation of land in Adams County will continue to be an ongoing project of the Ohio Chapter for years to come.

The Adams County preserve system is a fine example of what can be accomplished by long-term volunteer efforts. Ohio Chapter members are proud that their work will enable tomorrow's children to see relics of the wooded land and prairie seen by the pioneers, and that these lovely areas will remain as they are today.



No. 9
by John W. Humke

TNC AND DEDICATED NATURE PRESERVES

What is a dedicated nature preserve? This seems an odd question for The Nature Conservancy which has been about the business of preserving natural areas for some twenty three years. However, in the last several years a new concept has developed in nature preservation, and it is blossoming into a movement of potentially great significance to the Conservancy.

State nature preserve systems are legislatively created programs whereby lands of outstanding ecological quality are recognized as having unique values and are given protection from other public uses through a process called dedication. A number of states have established approaches to this general theme—some excellent, some good, and perhaps some not so good, or at least not as good as they could be.

The first state to create a system was Wisconsin. In 1945 the great conservationist and author Aldo Leopold, then a member of the Wisconsin Conservation Commission, promoted an idea that, in 1952, resulted in legislation creating Wisconsin's present day Scientific Areas Preservation Council. This system is relatively simple and involves a process whereby selected natural areas are administratively recognized as being unique and given special management consideration.

In 1963, the State of Illinois passed legislation establishing a much more comprehensive program that is generally recognized today as the model for all strong nature preserve systems. George B. Fell, a founder and the first executive director of The Nature Conservancy, is the man most responsible for creation of this system.

Nature preserve legislation of the Illinois type has four significant ingredients. First, and foremost, is the declaration that dedicated nature preserves are being put to the highest, best, and most important use for the public benefit. Second, a strong dedication process for each preserve is established involving the signed approval of a nature preserves board or commission, the head of the Natural Resources Department, and the Governor. Third, an even tougher procedure is established to control efforts to amend or revoke dedications. For a government agency to use a dedicated nature preserve for another purpose, a greater public benefit for which there is no reasonable alternative must be established, and the three dedicating officials (commission, Natural Resources Department and Governor) must concur in writing. In addition, public hearings are required. Fourth, rules and regulations relating to the protection and management of each preserve have the effect of state law.

The dedication process varies with systems but can be generalized into two categories. In a "recognition" system, such as Wisconsin's, dedication means that the owner of the property, be it the state, the Conservancy, or a private citizen, informally agrees to own and manage the preserve as a scientific area. In the Illinois type of system, dedication is a legal process whereby in effect the preserve owner legally conveys to the state all his rights in the preserve except the right to own it as a nature preserve under the established rules and regulations of the system. The dedication document and its significance can be best compared to an easement whereby all the rights, except the right of certain prescribed ownership, are conveyed to another. In the Illinois type system, a master management plan is also created; upon being recorded in the county courthouse, this management plan becomes the "law" of the preserve. Along these lines, an often misunderstood principle of dedicated nature preserves is that the basic management responsibility remains with the landowner and is not conveyed to the state.

Why should The Nature Conservancy dedicate its lands as state nature preserves, particularly when dedication involves a major transfer of property rights to the state without the state assuming the full management burden? This question has been

raised on a number of occasions by the Conservancy as dedication proposals were considered. The answer to the query lies in the recognition that the Conservancy is committed to the long-term preservation of significant natural areas and that the dedication process strengthens the Conservancy's ability to achieve this objective. The principal benefit received is strong protection from condemnation.

The preservation of natural areas can be regarded as a process of developing layers of protection. The basic layer is ownership by an organization committed to land preservation. A second layer could be obtaining real estate tax exemption which reduces the financial burden of ownership and protection. A third layer might be a sound preserve management program which insures that the natural condition of the area is not impaired by human activity. A fourth might be proper use which gives the area public acceptance and respect and helps insure tax exemption. While all of these layers might help ward off condemnation —the one threat which is beyond the control of the Nature Conservancy—dedication as a nature preserve best provides this layer of protection.

The Nature Conservancy is involved in the preservation of a variety of lands that range from open space to areas of national ecological significance. Not all these lands should be dedicated. If dedication is contemplated, a few guidelines should be considered:

(1) Is the area of outstanding ecological significance? A dedication is permanent, or should be, and the dedication act should be viewed as irrevocable. Also, an unjustifiable preserve is the weakest link in a system of dedicated preserves. If the highest and best public use principle can be successfully challenged on one preserve, the preservation of the remaining preserves is threatened.

(2) Is the preserve complete? Is it a fully assembled ecological unit? If the preserve contains areas that might be sold or traded for more significant additions, this action should be taken before dedication.

(3) Does The Nature Conservancy wish to retain permanent ownership? In most cases it would be very difficult to convey the limited ownership with the continuing obligations that dedication creates. If ownership transfer is envisioned to be a part of the preservation strategy, the best procedure is a simultaneous transfer and dedication with the recipient being aware of the dedication. If the proposed recipient objects to the dedication, it is a good idea to re-evaluate the preservation commitment of that recipient.

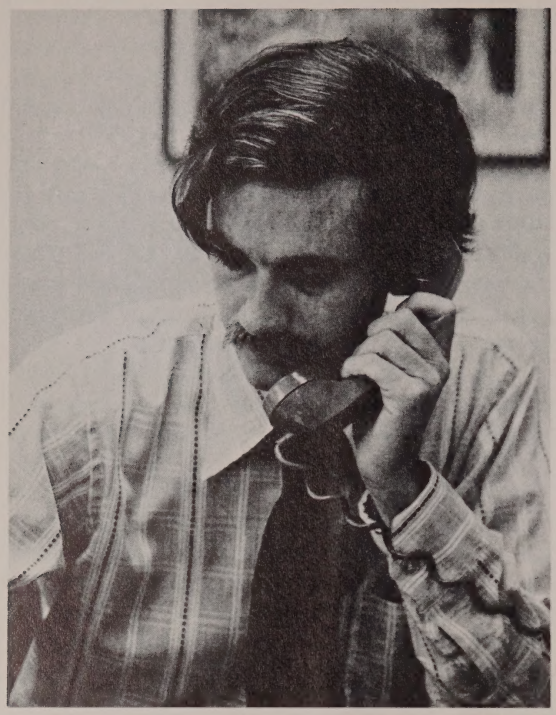
Given the above constraints, dedication is an effective device for accomplishing the Conservancy's objectives. It can be used to further protect areas retained by the Conservancy. It can be very effective as a means to control the use of preserves that are conveyed out of Conservancy ownership (in addition to our standard reverter clause). On government cooperation projects in states having nature preserve systems, it can help insure that the lands involved are buffered from short-term, expedient and often politically motivated decisions that would adversely affect lands acquired with Conservancy assistance.

A number of states, including Arkansas, California, Connecticut, Florida, Georgia, Hawaii, Illinois, Iowa, Michigan, Minnesota, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Washington and Wisconsin, have passed legislation that completely or in part establishes a state nature preserve system. The creation of strong nature preserve systems in every state would greatly help The Nature Conservancy to someday realize its basic objective of a complete and permanently preserved system of natural areas throughout the United States. To accomplish this, strong natural areas legislation will need to be passed in states where it does not now exist; and, in states where the job has only been partially accomplished, the existing legislation will have to be upgraded with amendments or replaced.

Project Revolving Fund Progress Report

The Project Revolving Fund now stands at $3,591,000. The Ford Foundation's challenge, whereby each donation to the Fund is increased 25% by the Foundation, expires on December 1, 1973. By that date, the Conservancy must raise $360,000 in order to realize the full grant potential of $600,000 from Ford, and to reach the $4,000,000 goal.

This Christmas, give a gift for all seasons—give a membership in The Nature Conservancy.
An annual membership includes a year's subscription to the News, as well as publications issued by the local chapter.
An attractive card, signed as you specify, announces each gift membership. To order, write to the Membership Department at the National Office.
Besides giving an enjoyable gift that lasts all year, you will be helping the Conservancy grow.



Jon Roush

ROUSH NAMED EXECUTIVE VICE PRESIDENT

Jon Roush, formerly Northwestern Field Director and a past acting Director of the Western Regional Office, has been appointed Executive Vice President of the Conservancy. Dr. Roush, before joining the Conservancy staff, was a visiting scholar at the Wright Institute in Berkeley.

As Executive Vice President, Dr. Roush will coordinate activity nationally, be involved with special projects and undertake responsibility for developing Conservancy planning.

A member of the faculty of Reed College in Portland for a number of years, Roush received his doctorate from the University of California. His experience includes that of being a foundation grant and program officer for the Carnegie Corporation, a rancher in Montana, and a consultant to colleges and universities in educational administration.

In announcing the appointment, Conservancy President Patrick F. Noonan said, "In what was a difficult decision, Jon Roush has chosen to leave the beauty and quiet of the Pacific Northwest for the hectic congestion of metropolitan Washington. We feel that the results of his decision will be justified, however, in more effective Conservancy programs in land conservation today and in the future. We are indeed fortunate to have a person of Jon's education, experience and commitment to conservation as a member of our team."

RESERVE DATES NOW FOR 1974 ANNUAL MEETING AND CONFERENCE

Trips to the Great Dismal Swamp and the Virginia Barrier Islands are planned in conjunction with the Conservancy's twenty-fourth Annual Meeting and Conference. The Meeting and Conference has been set for the last weekend in April of 1974 in Virginia Beach, Virginia.

Conference sessions will begin early Friday morning, April 26, and the annual business meeting will be held April 27.

In addition to being close to the Islands and Swamp, Virginia Beach offers attendees a wide choice and range of accommodations. Excellent camping facilities are available at nearby Seashore State Park. Announcement of the "headquarters" hotel along with Conference details will be carried in the Winter edition of the *News*.

Conservancy members and friends are urged to set aside the dates, attend the Conference and take advantage of the special opportunities to visit two of the Conservancy's most important nationally known projects.

EASTERN REGIONAL OFFICE RELOCATES

To bring staff and resources closer to land conservation projects and volunteers within the area, the Conservancy's Eastern Regional Office has moved to Boston, Massachusetts. Under the direction of Brad Northrup, the Boston office will oversee Conservancy activities in a twelve-state region extending from the Canada-U.S. line to the southern border of Virginia. The Eastern Regional Office was formerly located within the National Office.

FRANCIS LEE JAQUES: ARTIST OF THE WILDERNESS WORLD

The works of gifted wildlife artist and Conservancy member, the late Francis Lee Jaques, will be published in book form by Doubleday and Company early next year. Through the generosity of Mrs. Jaques, a portion of the royalty income from the sale of the publication will go to the Conservancy. Arrangements have been made with Doubleday to allow Conservancy members a saving should they wish to purchase the book at the time of publication. Although a departure from usual procedures, but felt justified in view of the nature of the work, members will be contacted by mail in January with information and details regarding the purchase of the book directly through the Conservancy.

Preserving land
for now and for the future
is what the Conservancy does.

Only you can make it continue to happen.

Please contribute to the General Fund.

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